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CONTENTS

Professor Dewey's "Judgments of Practise": H. T. COSTELLO... 449

The Place of Metaphysics: F. C. S. SCHILLER 455

The Bases of Croce's Logic: A Criticism: J. E. TURNER 462

Reviews and Abstracts of Literature:

Abstracts of Psychological Articles: F. L. WELLS 468

Journals and New Books 475

Notes and News 476

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THE JOURNAL OF PHILOSOPHY
PSYCHOLOGY AND SCIENTIFIC METHODS

PROFESSOR DEWEY'S "JUDGMENTS OF PRACTISE"

JUDGMENTS of practise are judgments which concern things to be done. They are such as: "It is better to do this," "Smith should consult a physician." In Professor Dewey's *Essays in Experimental Logic,* the consideration of these judgments is given a prominent place. The author hints that what one does with these judgments may easily lead to suggestions concerning a proper general theory of the status and task of knowledge. I agree that certain questions of considerable importance are raised, and I therefore desire to examine such judgments further. My quotations are drawn from Professor Dewey's chapter, but I should certainly not wish to commit Professor Dewey to such interpretations as I may make.

So let us consider Professor Dewey's characterization of such judgments. These judgments, we are told, imply "an incomplete situation," going out beyond the moment, and reaching towards a future that is not yet. Let us here pause to observe that the word "situation" has a number of possible meanings. It may mean "where I am." It may mean something quite distinct, namely, "where I think I am." "Where I am," may include all my surroundings; or only all such as *might* have influence on me; or all such as *will* have influence on me. It might also be limited to such surroundings as have effects on me that call out, on my part, characteristic reactions, relevant and purposive. "Where I think I am," is not to be identified with this last, for I may believe that I am reacting to things there that are not actually there, or may act with reference to possibilities that remain possibilities. On the other hand, I may react as an organism in characteristic ways to stimuli of which I can hardly be said to be mentally aware. The savage grows feverish, as his body fights against microbes, and he meanwhile anxiously propitiates the demons that his imagination has conjured up. Professor Dewey does not generally make these distinctions. He is, nevertheless, surprised when people interpret him

in subjectivist terms. Yet one who fails to distinguish between what is and what he experiences, has no reason to be surprised at such interpretation.

A further differentia of the judgment of practise is the presence of the maker of the judgment in the situation judged about. Indeed, not only is the judger involved, but Professor Dewey adds further: "Their subject-matter implies that the proposition is itself a factor in the completion of the situation," which, as we learned above, is "incomplete." An epiphenomenalist might wish to argue a prior question here. I shall not. I am willing to go with Professor Dewey. Only I should like to discover first exactly where he is going. For instance, the reference to "subject-matter" is ambiguous. "Subject-matter" may mean all of what is specifically referred to in the judgment, whether existent or not; or again, such parts as do, or will, exist; or on the contrary, it may refer to the meanings or actual present contents, whatever they are, in terms of which I think of this objective judged about; or lastly, it may even mean the total situation, in some of the senses above mentioned. In any case, the judging might be endowed with causal efficacy, without ascribing any such efficacy to what is judged about, since a judging might have an effect, even when erroneous, though in the case of such false judgment what is judged to be existent is not existent at all, and so can hardly be itself causal.

Next it turns out that practical judgments are to be limited to what are, in some rather general sense, value judgments. "One outcome is better than another." And further, the "subject-matter" implies "that the proposition is to be a factor in securing (as far as may be) the better." I suppose all that is meant here is that we have some sort of ulterior motive in making the judgment. But this leads to a further point which, though not obviously fundamental to the logical exposition, is dwelt upon at such great length as to show that here is situated one of Professor Dewey's own main interests. We are told that practical judgments bind together present means and future ends. I do not merely judge something good in the abstract. I judge it a good future for me, who am what I am. Of various ends abstractly possible, only those to the attainment of which adequate means are available and those only in connection with the relevant means—those and those alone are worthy of our consideration. On the one hand complete predetermination is denied, on the other, impractical utopias. This practicality of attitude is worthy of respect, and perhaps we need not here do more than warn of its obvious dangers, though it would be easy to sing the praises of ideals that have roused men to great deeds and shaped the course of his-

tory, though lying far beyond what is ever destined to be on this earth; it would be easy to maintain that no ideal has ever been a great dynamic inspiration which was actually realizable in point of fact. "These aims are means," says Professor Dewey. Yes, but the judging them good has been a means of human advancement because they themselves were possibilities whose realization as ends was judged good.

But leaving these considerations, we now come to the crux of the whole exposition. We are told, concerning these judgments of practise, "their truth or falsity is constituted by the issue." "The event or issue of [the course of action indicated] *is* the truth or falsity of the judgment. This is an immediate conclusion from the fact that only the issue gives the complete subject-matter. In this case, at least, verification and truth completely coincide." Let us examine.

It will be necessary to begin with some general considerations about verification. Suppose I ventured to affirm, "It is going to rain." Suppose, thereafter, I went into the house, and did not look out again. Suppose later it did begin to rain. There would then be one sense in which it could be said that the rain had "verified" my judgment. It simply happened as I predicted. The truth and this verification could perhaps be said to be the same—if one were willing, in Aristotelian fashion, to say there are no specific truths about the future until the future event, by actually happening, ceases to be future. But this would apply to all judgments about the future. I feel sure Professor Dewey has something different in mind. He is thinking rather of the case where I do later look out of the window, and do see that it is raining. This is verification. But are we, then, to understand that this sort of verification is to be simply identified with the truth of my judgment? Note again that we are not yet considering judgments of practise, but are including all judgments about the future. But what I now advance concerning all verification will apply to the special cases as well. My contention is that it is most undesirable to cancel the distinction of truth and verification. I think it undesirable because I believe many or most judgments about the future are made to be used. This sounds pragmatic enough. Nevertheless I seem to be at sharp variance here with the literal interpretation of Professor Dewey's words. For what I mean by use is this. I do not judge, "It is going to rain," in order to verify whether it is going to rain. I make the judgment in order to avoid that striking verification which consists in getting caught out in it, and getting wet. I judge the matter in order to make up my mind about a further volitional decision, for instance whether I

shall, or shall not, go out for a walk. I desire that my judgment about the rain be true. I may not in the least desire that I should personally verify its truth. Surely it would be most inconvenient, therefore, to identify truth and verification. Neither, for that matter, should I wish to identify its truth and its use. Its truth is not even a cause or condition of its use. I use it because I think it is true. But my thinking it true does not make it true. We must distinguish (*a*) truth-claim, and (*b*) truth, and (*c*) use, and (*d*) verification. I see no gain in muddling these together.

But suppose I do verify. Does the verification consist in my act of looking out of the window, or in the rain which I see, or in both? It consists in the mere existence of none of these. You could look out of the same window and see all that I see when I look. But that would be no verification of my judgment. I not only have to look and see the rain. I have to *compare* what I see with the judgment that I made. I have to *recognize* that this is the rain that does correspond to, and fulfill, my judgment. That is, verification is comparison and recognition. It is an intellectual thing. It is not a mere plunging back into an unintellectualized immediate experience. It is not a mere activity of doing something. We need only to consider the case in which the judgment is refuted to perceive that even the above enumeration of factors is over-simplified. I judge, "There is a brick house at the end of the street." The refutation of this would not consist in failure to find the end of the street. Complete failure to verify is not refutation. Neither does it consist in finding a tree growing near the curb. In all good verification I find things I did not expect. Refutation obviously consists in finding the end of the street as expected, but not finding the house there, though expected. Part of my expectations, and part only, are met. Analysis of significant factors is involved. But furthermore, the not finding a house there is not a mere observation. It is itself also an intellectual inference from what I do see. I can observe what is there, but I can not observe what is not. The latter factor belongs to thought. In brief summing up, verification involves analysis and comparison and recognition, and is not a mere plunging back into a non-intellectual immediacy or activity.

But, to return to Professor Dewey's "practical judgments," I think it can easily be shown that the situation with them involves all the above considerations and some others in addition. To avoid raising the question of objective value, let us select a case of judgment of preference. A preference need not be a judgment. Thus I may look at blue and red, and prefer the blue. This is hardly to be called a judgment, because there is no question of true or false.

We should get a judgment of preference only in cases where, at the moment, the alternatives were not thus present. Let us take, as an example, a practical judgment of preference referring to my own future. I judge, let us say, that "It would be more enjoyable to go to the concert this evening, rather than to the theater." In what sense can this bring about its own verification, and in what sense is the verification one and the same with its truth? Let it not be said we are unfairly complicating the case by introducing alternatives. Only when alternatives exist, even if unexpressed, would there be any meaning in supposing the judgment influenced the result. I think, therefore, that the example of an explicit preferential judgment is really the sort of thing that Professor Dewey is seeking to describe, and indeed, his own examples seem all to involve alternatives of action, even if only the alternative between doing and refraining.

So I have judged that it would be more enjoyable to attend the concert. Does this judgment bring about its own verification, even if acted upon? I can not go to both places. I judge in favor of the concert, and go. But can any enjoyment I get there suffice of itself to assure me that the theater would not have been even more pleasing? Certainly I can compare with previous trips to the theater. But that is an intellectual comparison of widely separated experiences, and not the experiences themselves. It is another judgment. Certainly I can infer from what my friend says, who did go to the theater that same night. But that involves other judgments, and not immediate experience. Could I do both alternative deeds, I should not need to make this judgment of practise which is supposed to lead to its own verification in deeds and experiences. If I go to the concert, that night's enjoyment of the theater never does come into existence. Professor Dewey says the subject-matter of these judgments of practise is as yet incomplete. I shall go a step further, and say that one essential part of the subject-matter is such as is destined to be forever only a possibility. The judgment is made precisely because the verification which Professor Dewey seems to call for is impossible. It is made because we have to choose and reject, and what we reject we forever put beyond the range of actual verifying experience. Certainly we can test these judgments of practise; and we do it by adding further experiential data. But these data themselves need to be interpreted. They become raw material to be worked up in new intellectual operations, new judgments of comparison. But in no sense are the new data themselves to be directly identified with an adequate verification. The completion of the incomplete situation is, therefore, neither the truth of the practical judgment nor its verification.

Let us reinforce the above argument from a slightly different angle. Judgments of practise are judgments about a future whose character is causally dependent upon the making of just these judgments. But though, by this hypothesis, you make the future what it becomes, and do so because that sort of thing is declared to be good or preferable, it is not at all evident that it becomes good or preferable because you bring it into being. Yet this seems to be the force of Professor Dewey's argument. If a cook thinks she can make a cake that is peculiarly delicious by combining the ingredients in certain novel proportions, and if she tries it and the taste is as expected, then that judgment of hers is causal towards the making of the cake, and obviously this particular cake can not have a pleasing taste until it is made. But what is asserted in the judgment is the connection, "If a cake be made in these proportions, then this taste will result." What is made by the cook is the cake, and not this hypothetical connection or implication of qualities. Only if the making a judgment that cakes concocted in certain proportions taste good were the cause which actually produced this relation between the proportions and the taste—only then could it be said that the judgment produced its own truth. It is not enough that the judgment causes the cook to make a cake. The judgment must cause cakes made in this proportion to taste good, when otherwise they would not. Aside from pathological cases of self-hypnotism, I see no reason to suppose that this ever happens, and therefore I see no reason to suppose that Professor Dewey's theory is ever true.

To "pick an argument to pieces bone by bone" is an ungrateful task. Yet this argument I have been analyzing is one which Professor Dewey and many of his followers believe, or so I understand, to be the ablest contribution to logical theory that he has ever written; and he suggests that it is the entering wedge which, pushed home in all its consequences, will bring the edifice of those philosophers who disagree with him crashing to the ground. Therefore I have thought it worth while to show exactly, and in detail, just where those who disagree with Professor Dewey take specific issue with him. As I read the pages about judgments of value which follow as a corollary to his argument, I find, as I should like to point out more fully did space permit, intentions worthy of much praise: a vision of an open future, wherein new combinations are to be tried, and the experience of new values brought into being in this world of ours. But I fail utterly to see why one who would welcome such a vision, or one who would hold in esteem the experimental method, with its close grip on realities, is also compelled to believe in this extraordinary logical theory. I can judge that, under certain condi-

tions, sulphuric acid and copper will make copper sulphate, and I can experiment and test it, and doubtless it is necessary for me to do so before I can lay claim to real knowledge. But if some one thence concluded that, "You have made sulphuric acid and copper make copper sulphate"—as though otherwise they would have made something else—"and therefore your judgment has made itself true"—such a statement of the case would seem to me the purest of verbal fallacies, a play on different senses of the word "make." Yet this is exactly the result to which the ingenious dialectic of Professor Dewey seems to lead.

H. T. COSTELLO.

COLUMBIA UNIVERSITY.

THE PLACE OF METAPHYSICS

IT is regrettable that Professor Warbeke in his comments[1] on my article on "Methodological Teleology"[2] declines to enter upon the important questions I had endeavored to raise, such as the relation of methods to metaphysics, of values to facts, of axioms to postulates, and merely tries to exculpate himself from certain animadversions he finds in my paper.[3] He does indeed state that metaphysics are

[1] This JOURNAL, Vol. XVII., p. 120.

[2] *Ibid.*, Vol. XVI., p. 505.

[3] I had mentioned, incidentally, in a footnote (p. 550), that his accounts of me were inaccurate and not to be trusted, and instanced that he had misrepresented me (1) as demanding the "abrogation" of the law of contradiction, and (2) as identifying "true" and "useful." He replies to (1), but not to (2), by quoting (at unnecessary length) from the context of the passage he referred to, but not, unfortunately, the two sentences immediately preceding the one he had attacked. As however he does (this time) quote it directly, he reveals that I had *never* said that the law of contradition "demands its own abrogation," but had merely remarked that it *seemed* to, and moreover that in the next sentence I had described this view as a "paradox." That ought, I suppose, to satisfy me. On the other hand it seems odd to say that his selections from me were "discussed under the head: 'Contradiction—as a Principle of Being, Either Meaningless or False; as a Principle of Thought, Self-contradictory.'" For these headings are *not* from the text (as any one would suppose), but *from the index* (which is not by me), and they refer also to a later discussion (p. 131–2), in which the proper meaning of contradiction is worked out and the "paradox" is cleared up. It is difficult to believe that if Professor Warbeke had looked up this second passage, he would not have perceived that the view he was attacking was not mine, even if he had read the first too cursorily to notice the words "seem" and "paradox." I am sorry to say also that his quotations from my article in this JOURNAL leave much to be desired. Thus he quotes a passage (XVI., p. 551) in which I argued that the alleged "teleological constitution" of the world *was only a methodological assumption*

(or may be?) for him hypotheses, and even gives (p. 122) what may be taken as a sort of definition of metaphysics as a "systematic effort to coordinate our most general assumptions into logical coherence." But upon closer inspection all his dicta seem to me too vague or ambiguous to form good starting-points for a discussion of the place of metaphysics in the *corpus* of the philosophic sciences: it will be better to approach this difficult question by casting a glance backwards over the history of this notion.

1. Metaphysic commenced its career, in Plato, as a way of discovering (absolute and ultimate) Truth by talking to young men. The younger, the better.[4] It was accordingly called *Dialectic*. When no young men were handy, or they got bored and went away, the philosopher might also claim the license of thinking aloud, and his "Dialectic" became "the soul's converse with itself."[5] In either case, Dialectic was the highest human pursuit, and no doubt was entertained of its capacity to attain to ultimate reality and absolute certainty. It was the sole guarantee of the "hypotheses" of all the sciences.

2. In Aristotle it changes its name, rather than its nature. In fact it gets two names—"first philosophy" and "theology." They are not perhaps as complete synonyms as Aristotle supposed. It makes a difference whether we conceive metaphysics as *the science of the first principles* which are common to all the special sciences, or as *ontology*, the science of τὸ ὂν ᾗ ὄν, which contemplates pure Being and Form undefiled with Matter. Moreover the two conceptions develop differently in the sequel.

3. After Aristotle, his editors took up the problem of placing metaphysics. After mature consideration they solved it, in a non-committal, but somewhat mechanical, way, by putting the writings on first philosophy *after* those on physics! And "metaphysics" they have remained ever since.

But only verbally. The meaning concealed behind the word has continued to vary and waver, and is still in dispute. Particularly as regards the relation of metaphysics to the sciences, which were steadily accumulating masses of truth hardly to be ignored altogether, even by the most obstinate metaphysician.

Formally there appeared to be a choice between three alterna-

and moreover one *all* philosophies had to use; but he omits the reference to methodological assumptions and my quotation marks round "teleological constitution"; so that an unsuspicious reader would ascribe the phrase to me instead of to him! In the next quotation also (p. 122) he has substituted the notoriously tricky word "presupposed" for my "supposed."

[4] *Cf. Parmenides*, 137 B.

[5] *Cf. Sophist*, 263 E.

tives. (*a*) The sciences might be declared dependent on metaphysics, either wholly, as by Plato (*Republic,* VI), partially and in so far as they resorted to "common axioms," as by Aristotle. But though in Plato's time it might seem possible to represent the sciences as awaiting the sanction of metaphysic and as indebted to it for the validation of their principles, their enormous development and steady progress during the last 2,000 years, when contrasted with the vagaries and unprogressiveness of the metaphysics, practically exclude this conception of their relations.

It is (*b*) more plausible, conversely, to conceive metaphysics as depending on the results of the sciences, and as attempting their final systematization. Clearly this makes metaphysics the *locus* of the final *problems* of knowing and being, and puts them *last,* not first, on the scientific programme. Also it tends to make them problematic, provisional and empirical.

(*c*) This of course was abhorrent to the rationalistically-minded, who have always claimed to be the true metaphysicians. So, while abandoning the claim to universal empire over the sciences, they endeavored to maintain at least the *independence* of metaphysics.

For this purpose metaphysics had to be equipped with a distinctive *subject-matter* and a distinctive *method.* "Being as such," "ultimate reality," and a variety of "absolutes" appeared to supply the former; "pure thought," "reflection" or "analysis" might be represented as the latter. As regards the former, the assumption common to all metaphysics was that their object could be taken as known or knowable; as regards the latter, that their method was non-empirical and unaffected by the changes which the sciences were continually effecting in the ideas they operated with.

Hence it was a serious blow to this conception of metaphysics when the question was raised how we *come to know* the reals we believe in. For it meant the dethronement of "ontology." Kant was not the first to raise this issue, but he did so most successfully; perhaps because he was not very radical, and shrank from questioning the belief in the *method* of rationalism, and, even in depriving the metaphysician of his transcendent objects, showed that his heart bled for him and still hankered after what his head had been forced to reject: at any rate he persuaded rationalists, in words at least and for a time, to recognize some of the most obvious difficulties in their position.

On the other hand it is clear that the scope of Kant's "Copernican Revolution" is limited. It applies only to such metaphysics as claim to be purely *a priori* and final systems of ultimate reality; it leaves unaffected the provisional syntheses that are willing to be

progressive guesses at truth, based on the conclusions of the sciences. These may continue to decorate themselves with the title of "metaphysics," if they value it.

It is clear also that his conception of philosophic method remains purely rationalistic. Though Kantian epistemology dethroned the old metaphysical dynasty, it only represented a younger branch of the same august family. Hence actual Kantism never cut at the roots of rationalist metaphysics, and could be followed by the remarkable reaction known as "post-Kantian idealism," the most extraordinary orgy of metaphysical speculation the world has ever witnessed, which the national pride of the German professoriate contrived to impose on the other professors as a normal and valid development of the human mind.

So two really valuable implications of the Kantian "Revolution" were obscured. The first was that it was legitimate, nay necessary, to raise questions prior to the ontological question—what is real?—because the real for us has always to be a knowable real, and epistemology thus becomes the logical presupposition of any metaphysic. This renders a frontal attack on the real impossible: it can yield its secrets only to a formal siege in which the differences made by *our knowledge of the real* are systematically estimated.

Moreover the question of knowledge did not, upon further investigation, appear to be the most ultimate of all. For knowing turned out to be a purposive process, and its course and character seemed to be largely determined by the devices and interests that inspired it, the ends it arrived at, and instruments it forged to compass them. Now this seemed to complicate questions of metaphysics with those of personal psychology on the one hand, and with questions of ethics on the other. For the traditional name for the end was the "good," and the Greeks had conceived the science of conduct as the search for the supreme end; if then all knowing depended on a "good," and all being on knowing, did not the good condition being? Thus the supreme science of metaphysics seemed to be subordinated to the special science of ethics.[6] But in reality it was to introduce a new question into philosophy, that of *Value*, and to imply that all judgments about the real are, as a matter of fact, value-judgments, since they have been selected and preferred by a purposive process of thought. Now the recognition of *Value* is the only philosophic topic

[6] I have myself repeatedly been censured on this account, and particularly for calling an Ethical Society Address *The Ethical Basis of Metaphysics*. The title was of course a conscious paradox, and was intended to express weariness with the pretensions of metaphysicians to make that support others which could not even support itself. But if it is objected to, I am quite willing to withdraw my "ethical basis," and to leave metaphysics in the air.

of first-class importance which can be said to have originated between the rise of Criticism and of Pragmatism. It is also the only one which can be said to have originated in Germany. It is post-Kantian and post-Hegelian, but its origins are obscure and its development is not yet complete. On metaphysics its effect is enormously to lengthen the approach to ultimate reality. For it complicates the question of what the real *is* with the question of how our various interests and ends, attitudes and prejudices affect our ways of *reaching* it. Our interests seem so various that these complications seem infinite, and so variably do their effects help or hinder that their influence ceases to be rationally calculable and becomes merely empirical.

So, though attempts have of course been made to arrive at valuations that can be represented as stable, universal and absolute, the growing prominence of the value problem has tended to reinforce the empirical attitude towards metaphysics. This attitude had already been fostered by the criticism of the rationalist and the Kantian conceptions of philosophic method.

It was pointed out, as against the former, that the distinctive method claimed by metaphysics did not exist. No thought was ever "pure," either in the sense that it was not stimulated by experience, or in the sense that it was not actuated by psychological interest in its thinker.

Neither were "reflection" and "analysis" methods that could be operated without regard to experience. No doubt they did not require capacious laboratories and costly apparatus. The philosophical professor could sit at ease in his chair, and perform these thought-experiments. Nor did the marvels of "reflection" and the acumen of "analysis" overtly presuppose any empirical observation. But both procedures were apt to become arbitrary and uncritical. You "reflected," in the light of prejudices that were unseen and unrecognized. You "analysed," but not the notions whose ambiguities you were preparing to exploit. In the end it seemed questionable whether anything was achieved but a fuller consciousness of the meaning of the words reflected on and analysed. And even this result was obnoxious to the double objection, (1) that this meaning is acquired and embodies merely what has been found out about the objects named, and (2) that it is not fixed, but changes as our knowledge grows. So that even if the metaphysicians had agreed to fix their technical terminology—and their lawless individualism rendered this impossible—it would have been rendered obsolete by the progress of the sciences. Decidedly neither "reflection" nor "analysis" could provide metaphysics with a distinctive method.

The *a priori* method of Kant seemed at first more promising. But it rested on two weak assumptions. The first was that the survey of the epistemological field had been exhaustive, and that consequently the Kantian analysis of the implications of knowledge was not merely one out of many, but *the* only one that would stand. The second was that in consequence it could be argued that knowledge must imply an *a priori*, if it contained what was *not* "empirical," and that this *a priori* must be Kant's, because his was the sole and final one.

However neither of these assumptions proved tenable. It appeared that, so far from exhausting the possibilities of thought, the Kantian epistemology merely took over and tinkered the "atomistic" psychology of Hume and his passivist conception of experience. Nor had it any positive arguments wherewith to commend itself. It could only reiterate that it was the only alternative to Hume. But it wasn't. It was not a "necessity of thought" to assume an *a priori* structure of thought according to the Kantian pattern. Indeed Kant admitted as much, by admitting practical postulates into a corner of his system. It thereby became legitimate to conceive the "*a priori*" voluntaristically, as composed of postulates, tested by being acted on, in the hope of their proving valuable, instead of intellectualistically, as (unintelligible) facts of mental structure. Actually this alternative interpretation of the *a priori* worked much better; but whether this was admitted or not, the mere fact that it was possible completely invalidated all arguments based on the assumption that the only alternatives were either a sensationalist or an apriorist intellectualism, and that to confute either of these *ipso facto* established the other.

If however "axioms" were simply successful postulates, and if postulates might begin their scientific career as wishes or as methodological fictions, it was clear on the one hand that man was left free to try *any* assumption he was willing to act on, and on the other that the function of experience in sifting and sanctioning human assumptions was really important. The secular controversy between rationalism and empiricism was in danger of being settled voluntaristically, by a compromise that repudiated neither human activity nor the value of experience.

The effect of this new development in epistemology on the position of metaphysics, was further to support the empirical conception of their relation to the sciences. For it now seemed as if all principles must be essentially experimental, while the sort of working appropriate to metaphysical principles became precisely that which was attested by scientific use. Moreover the voluntarist conception

of principles had a further effect. It affected the way in which the reals of metaphysics were regarded. It was no longer necessary, or even rational, to regard them as final. It was easier, safer, and in the end more convenient to regard them as hypothetical, provisional, and subject to revision whenever occasion arose. Thus even "ultimate reality" was only ultimate up to date, even "first principles" were only first because it was not yet convenient to relegate them to a secondary place.

Scientifically this had the effect of rendering relatively unimportant the question about ultimate reality. It emancipated science both from metaphysical dictation and from superstitious respect for "facts" that were after all relative to the state of the science that recognized them, and left it free to operate in any way that promised to be advantageous. "Facts," like "principles" ceased to be *ontological,* and became methodological, conceptions.

Do we thus finally arrive at a complete subjection of metaphysics to the sciences? Can metaphysical systems do nothing but reflect the vicissitudes of scientific opinion, and ruminate the precious truths cast before them? Is "metaphysics" merely the label for the unsolved, and probably insoluble, problem of a complete synthesis of all that is known?

By no means: if only metaphysics will take themselves seriously and honestly face the duties imposed on them by their definition, they too may emancipate themselves from external control and be free to become an integral function of life. If we define, as the duty of metaphysics, the complete synthesis of all the data of knowledge, we *must* include among them those data which are provided by the strictly personal portions of our experience. For it is of *his* experience as a whole that each one of us demands a synthesis, and to eliminate the personal part would be to mutilate the whole. It is true that the sciences (except individual psychology and some sorts of ethics) appear to abstract from personality and to standardize man before they treat him scientifically. But the facts often force them to recant and to rescind their abstraction. Thus the astronomer finds that he has to ascertain the "personal equation" of his observers. And the physicist prides himself on a great discovery, when it turns out that even in mechanics there is "relativity" and that he *can not* ignore the space and time of the observer.

If therefore metaphysics are to hope to make good their claim to be all-embracing, they must *both* include the results of the sciences *and also* dispense with the fictitious simplifications by which the sciences are wont to facilitate their task. While this makes metaphysics harder, it also emancipates them, and in a way satisfies their

craving for a distinctive object and a distinctive method. The object is all experience, personal as well as scientific, and the method is to evaluate the latter in the light of the former, until the conflicting purposes and principles of the sciences are interpreted into a harmony. Of course the task is difficult, and it is not surprising that so far metaphysicians have not had any signal success.

It should be clear then that there are metaphysics and metaphysics. If we insist on conceiving them as dogmatic systems of obligatory, absolute and final truth, the same for every one and for all time everywhere, we may have to class them among the persistent illusions of the human mind. But if we consider them as pragmatic hypotheses to round off our life withal, to be based upon the best knowledge available and to be changed accordingly, we may find them subjectively satisfactory to ourselves, and not devoid of interest and (at least) esthetic truth for others. But the two conceptions are so different as to render it a matter of some importance to make it clear *which* of them we mean when we speak of "metaphysics."

F. C. S. SCHILLER.

CORPUS CHRISTI COLLEGE, OXFORD.

THE BASES OF CROCE'S LOGIC. A CRITICISM

CROCE'S *Logic* is concerned, as every true logic ought to be, with knowledge in its entirety, although he has, from his own point of view, chosen to dichotomize his system into *Logic* and *Æsthetic;* it is quite justifiable therefore to ground criticism on general epistemological principles, and I have adopted this position throughout the following remarks.

1. He begins his treatment of the "pure concept," which is the true object of logic, by assigning a *cognitive* activity to sensation[1]—a principle which it is essential always to keep in mind. It is certainly an unusual way of regarding sensation and departs considerably from current epistemological and psychological usage, but it is not on that account alone unjustifiable, provided, that is, that it is consistently adhered to and all its implications accepted. Its obvious defect in Croce's hands is that it limits the sphere of thought at the outset by regarding a very extensive range of intellective activities—those *i. e.*, which he allocates to cognitive sensation—as taking place prior to any operation of thought itself;[2] and thus a

[1] "Sensation must be conceived as something cognitive, as a cognitive act," *Logic*, p. 3.

[2] Thought refers back to sensation as its antecedent," *ibid.*

portion at least of our knowledge, even though it were merely its elementary stages,[3] is regarded as obtained quite apart from any activity of thought proper. The opposed view of course, which may be taken to be current under many diverse aspects, is that some degree of thought is immanent and active from the first beginnings of knowledge, and may be summed up in the Kantian maxim—"Sensation without understanding is blind." I am not here asserting its absolute truth, but I would point out that its implicit denial by Croce supposes thought to intervene at some unspecified stage of the entire knowledge process, and thus assigns all the earlier phases to some other agency which he calls "cognitive sensation," and distinguishes further from perception.[4]

But what the precise limits of this activity are—at what exact point thought steps in to direct the further advance of knowledge—is very difficult to determine. "Thought," he proceeds, "arises upon the intuitions, and by means of these the cognitive spirit absorbs within itself reality, bestowing on it theoretic form;"[5] the concept "springs from representations as something implicit in them that must become explicit" (p. 18). It is certainly difficult to discover any clear meaning in these assertions; they appear indeed to suffer from that figurativeness which is the usual refuge of a thinker in a difficulty; and their obscurity is not lessened by the further statement: "it is not true that the spirit issues little by little from the representations" (p. 29); apparently therefore it must, though "implicit in" representations "arise upon" them as a *deus ex machinâ*. But a more serious problem attends the "purity" which Croce thus assigns to sensation; for in what sense can sensation be "pure" if it contains within itself the concept as something implicit?

2. Let us accept, however, this principle that upon "pure sensation" thought bestows the valid theoretic form which is absent from sensation as such. Now in the *Æsthetic* Croce regards this intuitive sensational knowledge as essentially "indifferent to reality and unreality"—as "independent and autonomous in respect to intellec-

[3] But Croce himself regards sensation or intuition as a fundamental source of knowledge. *Æsthetic, passim.*

[4] On this point Croce is quite emphatic. Just as Logic deals with the pure concept, so sensation for him is "pure"—"must be taken in its purity, without any logical reflection and elaboration; as simple sensation and not as perception," *ibid.*, pp. 3, 4. The "purity" of sensation in itself presents no difficulty—it is a quite legitimate epistemological abstraction; the ascription to it of cognition here constitutes the problem.

[5] *Ibid.*, p. 4. "Representation," "Sensation" and "Intuition" are synonymous; but the use of "intuition" by other writers must be disregarded.

tual function;"[6] thus representations are expressive and artistic, but *non-cognitive,* and this position is obviously quite consistent with the independent rôle of thought; but although representations are as it were taken over from the *Æsthetic* to the *Logic,* Croce's assignment to them of a cognitive function at the commencement of the latter work is a direct contradiction of his final position in the former. But if the "cognitive sensation" of the *Logic* thus lacks theoretic form, what value is there in its purely cognitive results? Either (*a*) their truth agrees with conceptual truth, which then is obtainable by two absolutely distinct methods; or (*b*) they are not true, and are therefore valueless for knowledge; or (*c*) they are true, but independently of thought; in which case the theoretic form which thought bestows is itself invalid or superfluous.

Whatever the solution of this difficulty may be, the pure concept itself is somehow implicit in representation, but is not itself a representation—"a true concept is not representation, can not have for content *any single* representative element;" as against this however, it is an equally fundamental principle that "representation as well as conceptual elements *must always* be found in the concept."[7] Thus there arises another direct contradiction; for in his preliminary definitions Croce distinguishes between "pure" sensation and "pure" thought (or universal concept), each absolutely exclusive of the other; whereas in the development of his theory the representation comes to be regarded as an essential element always found in the concept itself; not, be it noted, in the knowledge which may be regarded as a compound result of representation and concept acting together, but in that very concept from which it had previously explicitly been excluded.

This exclusion is indirectly confirmed by another passage—"Thought conceals representations less than the veil concealed Alcina;"—the representation is here taken to be visible as such through the thought, not merged within it; but as against this we find that "it is not possible to think without transforming the representation by means of the concept;" so that thought, while scarcely concealing representations at all, nevertheless transforms them: "The appearance of the concept transfigures the representations making them *other* than they formerly were."[8] Croce's whole

[6] *Æsthetic,* p. 18. On the other hand, the connection between knowledge and reality is fundamental: "To know is to know reality; and knowledge of reality is translated into representations, penetrated with thought," *Logic,* p. 154. If "translation" is to be taken literally, it would seem to imply that knowledge is prior to both representations and to thought.

[7] *Logic,* pp. 20, 213; italics mine.

[8] *Ibid.,* pp. 228, 422, 149; *cf.* note 5, *ante.*

account of the relation between representation and concept is thus most confused; at one time the concept excludes representations, at another it includes them; and thought is almost completely transparent to representations, which at the same time it transforms!

3. A parallel confusion attends Croce's distinction between pseudo-concepts and the true logical concept. In the first place, "conceptual fictions follow rigorous concepts and presuppose them as their own foundation;"[9] or in other words, before the mind can attain to general ideas such as "house" or "triangle," it must be in possession of some form of the "pure" concept; and whether this principle itself be actually true or not, at least Croce's argument in support of it is invalid, because it is viciously circular. The "fictional" concepts of "house" and "triangle," he contends, must arise within experience in succession to the true concept, because otherwise they could not be fictions: "were this not so, of what could they ever be fictions?" But for the "fictional" character here imputed to such concepts as "triangle" and "house" Croce advances no other arguments whatever; he merely dogmatically asserts that they are "fictional," compared that is with "pure" concepts. Thus when his complete course of reasoning on this point is brought together in its actual sequence it becomes:

"Triangle" is a fictional concept; but all fictions necessarily presuppose the true, and therefore can only arise subsequent to the true; therefore "triangle" must follow the true concept; it must therefore be fictional. Here the conclusion is plainly nothing but the initial ungrounded assumption itself; "triangle" is styled (without argument) a "fiction," and as such adduced as evidence for the nature and priority of the concept proper; then this is in its turn employed to establish the fictional character of triangle with which the argument began; the logical invalidity of the entire contention is patent.

But even if it were valid, Croce's position here is untrue, I think, to the actual course of cognitive experience. Fictional concepts, as he calls them, necessarily presuppose the pure concept; but this again, as has been shown, presupposes representations;[10] the development of logical knowledge therefore must be from cognitive sensation, by means of the pure concept, to those "fictional" concepts in common and universal use—triangle, house, *etc.* It follows therefore that no one can form these latter ideas unless he first possesses the pure concept proper. But is this a correct interpretation of the actual facts? "The practical spirit," asserts Croce, "can

[9] *Ibid.*, p. 30.

[10] "Presupposed in the logical activity are representations or intuitions." *Logic*, p. 3.

intervene in representations and concepts previously produced, manipulate them and make of them conceptual fictions.''[11] Now the formation and employment of these simple general ideas is found in the earliest phases of knowledge; it occurs among illiterates, children, idiots, and possibly even animals. Must these then be credited with a prior consciousness of the ''pure'' concept? If so this must become the mere ghost of itself; for Croce's own instances of such concepts ''of universal character'' are ''quality, development, beauty, final cause.''[12] In what form can these exist in the mind of a child, of a mentally defective person, or of an intelligent dog? If at all, certainly only in an extremely tenuous and highly abstract form; and indeed Croce's own argument explicitly recognizes this in another passage, which is, however, an unconscious *petitio principii:* ''It is not possible to think that man constructed the smallest conceptual fiction without having previously imagined and thought.''[13] So much may perhaps be admitted; but Croce's own conclusion does not therefore immediately follow, for it still remains possible that this imagination and thinking resulted first in those general ideas which Croce arbitrarily calls fictional concepts. He asserts however, that the actual primary results were ''quantity, quality, existence, and we know not how many other rigorous concepts.'' Were this contention valid, surely a little further investigation would have revealed these unknown ''rigorous concepts;'' as the matter stands those cited by Croce are just those which Hegel has shown to be the emptiest and most abstract of all possible ideas;[14] only the highly trained intellect can detect their presence, and to assert that, as pure concepts, they must exist in every grade of intelligence is but a sheer travesty of the actual facts.

Croce himself indeed in spite of the principle thus enunciated has given specific instances of the creation of true concepts subsequently to concepts not universal: ''it was a step in progress to identify will and action by the creation of the truly universal concept of the will, which is also action. It was an advance to universalize the expression of art by extending it to language.''[15] Admittedly then some ''concepts not universal'' actually precede and in fact give rise to true concepts, in spite of the general prin-

[11] *Ibid.*, p. 33.

[12] *Ibid.*, p. 20. *Cf.* also p. 75, ''goodness and beauty,'' and p. 92, ''truth, utility, moral good.''

[13] *Ibid.*, p. 31. The alternative possibility is refreshingly naïve, and recalls the ''innocent savage'' of bygone social theories: ''man, from being the ingenuous poet that he first was, raised himself, immediately, to the thought of the eternal.''

[14] *Logic* (Wallace), Ch. VII.

[15] *Logic*, pp. 42, 43.

ciple previously laid down that fictional concepts necessarily presuppose the true. Indeed if we consider the nature of scientific investigation it seems palpably true that this advance from fictional to pure concepts is the universal method therein employed;[16] which again is borne out by Croce's own description of his "empirical" pseudo-concepts—those most generally employed at the level of ordinary intelligence—as "groups of representations" (p. 63). If, however, we begin (as Croce argues) with representations, what is gained by our "thinking the eternal," and by the subsequent intervention of the practical spirit to form pseudo-concepts, if after all the final result be in the main nothing but groups of those very representations with which we began?

4. It is equally difficult to reconcile the various modes which Croce adopts to express the relations between true and pseudo-concepts. The formation of the latter, as we have already seen, is the work of the practical spirit—in itself of course an essential and valuable aspect of spiritual activity as a whole. It might be anticipated therefore that its results would partake of its own value, and in one sense this is the case: "the relation of the concept to conceptual fictions is a relation not of identity, nor of contrariety, but of diversity" and nothing more.[17] But on the other hand we find (p. 30) that fictions counterfeit or imitate concepts—as though these terms (imitate and counterfeit) were identical in meaning; but an imitation is not necessarily a counterfeit. After this, however, the descent of the pseudo-concepts in the philosophic scale is alarmingly rapid—*facilis descensus Averno;* for they *falsify* concepts.[18] But if now Croce's detailed comparison between true and pseudo-concepts be followed in detail, it is impossible to understand this charge of falsification. True concepts, we find, are at once concrete and universal (pp. 46, 49); the abstract pseudo-concept differs from this in being universal but not concrete; the empirical, as concrete but not universal (p. 46); the first dispenses entirely with images, the second as invariably retains them. It is surely excess of philosophic zeal to call these two processes, both essential to actual thinking and reflection, both the work of the practical spirit, "falsification;" and its natural result is the ascription of a

[16] *Cf.* "Man's most abstract ideas are but generalizations of his practical ways of resolving and acting;" Boutroux, *The Relation between Thought and Action,* p. 5.

[17] *Logic,* p. 37.

[18] "Falsifying the concept," p. 45; "there is no other way of falsifying the concept," p. 46; "it will always be impossible to dispose pure concepts . . . without falsifying them," p. 89; "the falsification of the pure concept," p. 369.

self-contradictory function to the activity of thought in natural science. For science (it is obvious) "is composed of pseudo-concepts;" it must falsify therefore the pure concept, falsify "the universal that is truly universal and not mere generality or abstraction;" and yet in face of this fatal logical defect, we find elsewhere that "to establish a universality which at first was wanting, is the glory of truly scientific thought." Thus science at one and the same time establishes, and also falsifies, the true philosophic concept or universal; and since again "thought always thinks with pure concepts, never with pseudo-concepts,"[19] scientific investigation (dealing with pseudo-concepts) at even its highest levels is never worthy the name of thought. But the crowning contradiction, in this respect, is found of all places in the full title of Croce's work itself—*Logic, as the Science of the Pure Concept—i. e.,* "as the Pseudo-concepts of the Pure Concept!" Or worse still, if we take Croce's arguments literally, "as the Falsification of the Pure Concept!"

J. E. TURNER.

LIVERPOOL.

REVIEWS AND ABSTRACTS OF LITERATURE

To the Editors of the JOURNAL OF PHILOSOPHY:

THE accompanying summaries, consisting largely of quotations of nuclear passages, were prepared for the files of the psychological department at this hospital. They are herewith offered in the hope that they may be serviceable to other users of the JOURNAL.

Very truly yours,

F. L. WELLS.

McLEAN HOSPITAL,
WAVERLEY, MASS.

NOBLE, ELLIS L. and ARPS, GEORGE F.: "University Students' Intelligence Ratings according to the Army Alpha Test," *School and Society*, 1920, 11, pp. 233–236.

This report concerns the Army Alpha test with 5,950 students at Ohio State University. About 51 per cent. rate A, 33 per cent. B, and 13 per cent. C+. The median score is about 135. Distribution of scores in the student body according to years is given in detail. The highest median scores are made by the senior class in law and the freshman class in medicine. The colleges of medicine, commerce, journalism and engineering score higher than the other colleges as shown by a table in detail. The medians of the classes

[19] *Ibid.*, pp. 256, 42, 71.

within the colleges show a consistent and significant gain through the four years. Some doubt is raised as to whether mental maturity is reached in advance of or at about the age ordinarily attained at the completion of the high school course. The results suggest that it may be necessary to extend somewhat the maximum period for development of innate mental ability. Men students score in general 5 or 6 points higher on the scale than do women.

ANDERSON, JOHN E.: "Intelligence Tests of Yale Freshmen," *School and Society,* 1920, 11, pp. 417–420.

This report is based on 400 cases. Some 85 per cent. rate as grade A, 14 per cent. grade B, and 1 per cent. in C+. The students are thus a highly selected group and rate higher than a large sampling of army officers. A chart shows the distribution of scores in the Freshmen and of some 13,500 drafted men. Among the Freshmen are 131 high school alumni and 254 preparatory school alumni. The median scores of these two groups are practically equal and their distributions coincident. The correlation between the test scores and the first semester grades of 373 students is .377. For a student getting a score of 122 or lower the chances are 1 in 6 that he will be dropped, 2 in 6 that he will be put on probation, and 3 in 6 that he will do creditable work. One man with a score of 193 and another with a score of 182 were dropped from college for deficient scholarship. In such cases the test scores may be very useful to an advisory officer. It is not felt that in general the test is as useful in the selection of college students as others which are devised more specifically for this purpose.

MADSEN, I. N.: "High School Students' Intelligence Ratings according to the Army Alpha Test," *School and Society,* 1920, 11, pp. 298–300.

This report concerns intelligence ratings of high school students, and the differences between classes and sexes. The younger students in each class make the best score. In the Alpha test the median score for the 12 year old freshmen is 125.0, for the 13 year old freshmen 109.7. Such facts answer effectively the argument that the test really measures education and not native intelligence. From the fact of having lived longer the older students should have gained additional incidental information which should help them in making a high score if educational experience is a factor. For any given age there is an increase in the scores according to class. The median scores of 15-year-olds according to classes are 97.2, 114.4, 128.7, 145.0. It naturally requires greater native in-

telligence to reach one of the upper classes at the age of 15. The question is raised as to the intelligence rating necessary to guarantee satisfactory work in the high school. Low scores are at about the level of average intelligence for the army groups. As students so scoring are doing unsatisfactory work it seems that more than average intelligence is required for satisfactory high school performance. Terman has found that some 7 per cent. of students entering high school have an intelligence quotient below 90. His findings are in agreement with the conclusion that average intelligence is not sufficient. Conversely it means that subject matter suited to the mental capacity of high-school pupils is not provided.

JONES, EDWARD A.: "The Army Tests and Oberlin College Freshmen," *School and Society*, 1920, 11, 389–390.

The cases, whose grades are distributed, number 137 men and 193 women. The median score for men is 153 and for women 145. The tests 2 and 8 show the significant sex differences in favor of the men; in the others the sexes are practically equal. 70 per cent. of Oberlin Freshmen made 135 points or better as opposed to about 4 per cent. in the army. The B grade was made by about 26 per cent. of Oberlin Freshmen as opposed to 9 or 10 per cent. of the army. A score of 200 was made by 2 men and 1 woman, two of them 17 years of age, the other 16.

DOLL, EDGAR A.: "The Average Mental Age of Adults," *Journal of Applied Psychology*, 1919, 3, pp. 317–328.

The average mental age of adults is found to be approximately 13 years instead of 16 as heretofore believed. The growth of general intelligence is found to be practically complete on the average by 13 years of age and is not on the average thereafter exceeded. This applies strictly to the level of intelligence or degree of brightness as opposed to intelligence plus maturity, experience, and acquisitions. These conclusions are induced by four separate investigations on totally different types of subjects and from different points of view, namely: (*a*) The application of Alpha and Beta group intelligence tests to about 1,500,000 soldiers and recruits, where the average mental age is found to be about 13 years. (*b*) The application of Alpha group intelligence tests to about 500 typical public school children, where the median score of ages above 13 do not exceed the median for 13 years. (*c*) The application of Alpha group intelligence tests to about 500 juvenile delinquent boys, who are found to be of inferior intelligence but whose level of intelligence is fully attained by 13 years, on the average. (*d*) The repeated application of Binet intelligence tests to about 250 feeble-

minded persons of wide ranges of life age and mental age, who individually may develop in intelligence up to a life age limit of 13 years and not thereafter. The conclusions are induced not merely by the empirical data for each separate investigation, but particularly by the consistency of agreement obtained from such strikingly different methods of approach. Striking differences are observed between the average levels of general intelligence of native whites, foreign-born, and negroes. Striking differences also are found for different social classes of native whites, different nationalities of foreign-born, and different geographical groups of negroes. A logical fallacy is exposed in the application of mental age limits to the diagnosis of normality and feeble-mindedness. The conception of borderlinity in relation to mental age is much extended. The calculation of intelligence quotients is found to be seriously disturbed by the uncertainty of the exact life age at which intelligence development is to be considered complete on the average. The standardization of mental age scores for ages above 13 years by any method other than the percentile scores is not attempted, but is found to be impeded by the difficulty of obtaining fully representative unselected groups of subjects outside the grammar schools.

JORDAN, A. M.: "Some Results and Correlations of Army Alpha Tests," *School and Society*, 1920, 11, pp. 354–359.

This study considers (1) the median number of points secured by the various classes and colleges of several institutions of higher learning, (2) the correlations of Alpha and high school records of the students in the University of Arkansas, (3) the correlations of Alpha and the university grades and the correlations of some of the individual tests of Alpha and the university grades, (4) the correlations of high school grades and those of the university, (5) the correlations of a combination of high school grades and Alpha with university grades, and the correlation of this same combination with college English and finally (6) the correlations between the grades of university students in their different subjects. The scores of freshmen in 5 institutions considered range from 119 to 142 (median). In all cases engineers stand higher than students of agriculture. Correlations of Alpha and high-school grades is about 25. Correlation of Alpha and freshmen grades is considerably higher. The arithmetical tests of Alpha correlate better with mathematical grades than does the entire test. The correlation of Alpha with the average of freshmen grades is about 48. High-school grades and freshmen grades seem to correlate better with each other than with Alpha. The question of "critical scores" is raised. In the Arkansas material no person who was above median in Alpha

averaged as low as 50 in college grade. No person had an average grade in college of 87 or above, whose Alpha score was below the median. The highest correlation between the various college subjects was that between English and psychology which was .667; the lowest between mechanical arts and chemistry which was .37.

TOOPS, HERBERT A. and PINTNER, RUDOLF: "A Chart for the Determination of I.Q. Values," *Journal of Delinquency,* 1918, Vol. 3, p. 272.

This chart is a graphic representation of intelligence quotient values for different grades of performance at different ages. It is most useful as a desk sheet for the frequent user of the Terman scale, on which it is based. It is unfortunate that presumably owing to increased cost the chart is not printed in two or more colors. Its ease of reading would be vastly increased by such a feature.

BINGHAM, W. V.: "Measuring a Workman's Skill," *Bulletin No. 30, National Society for Vocational Education,* 1919, pp. 4–11.

By the time that mobilization ceased in November, 1918, standardized tests in about eighty of the more important trades were in use. The cost of production and standardization of the tests was on the average roughly a thousand dollars a trade. After analysis of the trade comes construction of a tentative test. This sometimes takes the form of a performance test, a job arranged so as to require of the candidate a demonstration of his manual proficiency and his judgment in the use of the main tools of his trade. Other tests are entirely oral, consisting of questions to elicit definite bits of trade knowledge, to sample the range of the candidate's practise, and to try the soundness of his judgment on typical matters. A third type of test, similar in principle to the oral test, presents to the candidate pictures of tools, machines, materials and products of his trade, and requires him to identify them and to indicate uses. Not infrequently the tentative formulation of the test has proved inadequate. Only after a test had been devised which was found on thorough trial to measure up to the requirements, was it turned over for use with the soldiers.

In beginning the trade test development it was expected to meet numerous difficulties due to the prevalence among manual laborers of this variety of mental constitution. It was expected to find that the oral type of tests would prove useful with the more verbally minded men; but we anticipated meeting many tradesmen of high proficiency and skill who could no little or nothing with these oral questions. This expectation proved to be wholly at variance with

the facts. The journeyman and the expert differ from the apprentice not so much because they have greater manual skill and dexterity as because they excel in judgment, technical information, or trade knowledge. Of course this is not the case in some occupations, such as truck driver or typist. But in most of the trades the actual performance testing of a man on the manual job can be omitted without great loss to our knowledge of the man's proficiency. An oral test prepared in the manner already described is more effective than a performance test in separating journeymen from apprentices and experts. The obvious implication is that dexterity and manual facility in doing a job are relatively less important than knowledge of when to do it or which tools to choose. No generalization more suggestive for industrial education has emerged from our work than this, that superiority in trade proficiency resides more often in the head than in the hands.

Technical interviews will resemble oral tests in that they will consist of precisely such questions as have been found most useful in the oral trade test. But they will not be administered with such rigor of procedure, nor will they yield a numerical rating.

BURTT, H. E.: "Partial Correlations on a Slide Rule," *Psychological Bulletin,* 1919, 16, pp. 240–242.

A method is described for partial correlation work with the substitution of the slide rule for Kelley tables. Little difference appears in speed or accuracy. The slide rule does not appear noticeably more fatiguing and is convenient in checking over work done with the tables. Partial correlation work is thus readily open to anyone skilled in the use of the slide rule even though he may not have access to Kelley's monograph.

FEARING, FRANK S.: "The Value of Psychological Tests in Psychiatric Diagnosis," *Journal of Abnormal Psychology,* 1919, 14, p. 196.

The following points seem to demand emphasis: (1) Diagnosis on mental cases should not be made on the basis of test scores alone. (2) A wide range of scores is significant in differentiating psychiatric types from feeble-minded types. (3) The reactions of the subject during the performance of tests is as important as the test score. (4) The performance of the Binet-Simon or some other standardized intelligence scale is an important part of the clinical picture in all mental cases.

BRILL, A. A.: "The Empathic Index and Personality," *Medical Record*, Jan. 24, 1920, pp. 1–12.

Freud has conceived that *folie à deux* is a self-identification of one of the patients with the other. As one departs from these extremes one meets more refined forms of identifications as seen in normal identifications and fancies. Students may imitate favorite teachers and show it in many ways; this may be conscious imitation, but is usually quite unconscious. The self-identification of the child with the parent is similar. True identification is altogether an unconscious process. Once it may have been conscious, but has become as it were a second nature. For some ten years the author has asked most patients during the first interview "what personage from history or legend do you admire most, or whom would you consider your ideal?" It is presumed that this person expresses in his life the conscious and unconscious strivings of the patient. 90 per cent. of the male answers are confined to five persons in history. Of 586 male adults, 396 answered Napoleon, 101 Lincoln, 38 Cæsar, 26 Washington, 16 Frederick the Great, 9 scattering. 70 per cent. thus idealized Napoleon. Of the whole number, of whom some 350 were Christians, only 2 answered Jesus. The intelligent person thus admires most a man of action who can put into operation those impulses which he himself would wish to live through but can not or dares not. Of the two persons answering Jesus, one was a physician who had given up practise and lived on a ranch, the other was a literary man of independent income. Napoleon and Cæsar express the aggressive opponent common to all male animals. The term empathic index is used to designate the person chosen as the ideal. The author finds that nicknames given by playmates or acquaintances usually show the empathic index. In examining the empathic index of persons having morbid fear of the draft such indices were found as Benjamin Franklin, Pestalozzi, Florence Nightingale. The empathic index is somewhat influenced by age. Of the 101 answering Lincoln the majority were over 38 and 90 per cent. were married. Lincoln was also given as second choice by many who first answer was Napoleon. Napoleon and Cæsar represent the absolute primitive, while Lincoln represents a sublimation of it. The empathic index in boys of kindergarten age, is regularly the father. Among the women Lincoln and Washington seem to stand highest and men are nearly always named. The empathic index furnishes a new and quick method of observing the person's mode of adjustment.

JOURNALS AND NEW BOOKS

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Possible Effects of the Imaginal Type of the Subject on Aphasic Disturbances (pp. 327–336): SAMUEL W. FERNBERDER. – No attempt is made to hold a brief for any particular theory of strict localization of the language functions. That schema must be supplied by the neurologists. We have attempted to show that there are no valid theoretical reasons why such an envisagement of the problem is not proper and possible. *Psychology and History: Some Reasons for Predicting their more Active Coöperation in the Future* (pp. 337–375): HARRY ELMER BARNES. – The attempt is made to trace the development of scientific historiography to the point where it has provided a vast storehouse of relatively accurate data for the historian. It is also shown that work in this field of collecting sources is beginning to be supplemented by the next natural development of historical science. *The Neural Correlates of Instincts and Habits* (pp. 377–405): CARL WILLIAM BOCK. – In a previous study the author showed in what kinds of group activities untrained subjects generally beat, and how they could be classified. In the present paper the author presents the same kinds of facts in relation to certain new kinds of facts and shows how such facts may be employed analytically for the determination of the properties of the nervous system. *A Note on the Psychology of Vitalism* (pp. 406–414): FREDERICK G. HENKE. – The question of vitalism and mechanism from the point of view of psychology does not resolve itself into an antithesis; not "either . . . or," but "both . . . and" expresses the relation between the two. Man is both vitalist and mechanist. *Minor Studies from the Psychological Laboratory of Cornell University:* XLIV. *On the Lapse of Verbal Meaning with Repetition* (pp. 415–418): M. F. BASSETT and C. J. WARNE. – Given a stably passive attitude on the part of the observer, the meaning of a familiar monosyllabic noun repeated aloud three times per second drops away in about 3 to 3.5 seconds. Meaning may lapse suddenly or die out gradually. XLV. *The Adjustment of the Hering Color-Blindness Apparatus* (pp. 419–422): M. COWDRICK and M. WINFIELD. – We have no evidence that the *Anweisung* to the use of the Hering Color-Blindness apparatus was ever distributed. If it is not, the reason may lie in the fact that the instrument is valueless for comparative purposes if set up in diffuse daylight, and that Hering was reluctant to commit himself to any specific source of artificial illumination available at the time when the apparatus was constructed. XLVI. *Adaptation of Superficial Pain* (pp. 422–424): H. H. STRAUS and R. F. UHLMANN. – Authors rarely discuss adaptation in connection with pain. The writers are interested in making out the exact conditions

under which adaptation of pain may be experienced and to determine the times of adaptation with various intensities of stimuli. *Minor Study from the Psychological Laboratory of Stanford University* (pp. 425–426): GERTRUDE M. TRACE. – A new tapping instrument for laboratory use is described and illustrated. *A Footnote: "Authorship of the Book of Mormon"* (pp. 427–428): WALTER FRANKLIN PRINCE. *Book Notes.*

Beaupin, Abbé. Les Catholiques et l'après-guerre. Paris: Blond. 1918. Pp. 159.

Joseph-Barthelemy. Le probleme de la competence dans la democratie. Paris: Felix Alcan. 1918. Pp. 266. 6 fr.

Denis, H. Discours philosophiques. Paris: M. Giard & E. Brière. 1919. Pp. 332. 13 fr. 50.

NOTES AND NEWS

Logos, an international philosophical review published by Professor Antonio Aliotta and a group of collaborators, has resumed publication with the issue of January–March, 1920. It undertakes to publish articles in Italian, English, French, German and Spanish, with a résumé in French of all articles not written in that language. The current number opens with an eloquent plea by Professor Aliotta for international cooperation in philosophy and science. All communications should be addressed to Professor Antonio Aliotta, Università, Naples.

DR. JOHN M. MECKLIN, formerly of the University of Pittsburgh, has been appointed professor of sociology at Dartmouth College.

DR. H. T. COSTELLO, of Columbia University, has been appointed professor of philosophy at Trinity College.